

Narath Announces Opening of Major New R&D Center at Labs



FLAT TVs — Jim Searcy (right), Director of Manufacturing Technologies Center 2400, discusses small-area flat panel video displays with Dominick Monarchie (center) and Peter Shanaghan (both of Norden Systems, Inc.). Development work at Sandia's new National Center for Advanced Information Components Manufacturing may result in much larger-area flat panel displays useful for high-definition TV and video monitors. As illustrated by the banners in the background, the center will be operated by Sandia in collaboration with Los Alamos and Lawrence Livermore national laboratories.

In an effort to help US manufacturers capture the bulk of a growing international market, Labs President Al Narath officially announced the opening of the National Center for Advanced Information Components Manufacturing (NCAICM) last week in Albuquerque.

The new center, headquartered at Sandia, will combine the expertise of DOE's three weapons laboratories, universities, and industry to bolster US competitiveness in the lucrative information components market,

"Our objective is very simple. We want to have a major impact on the US economy."

expected to be worth \$2 trillion worldwide by the turn of the century.

"Our objective is very simple," said Al. "We want to have a major impact on the US economy."

Sandia will operate the center under the sponsorship of DARPA (the Defense Advanced Research Projects Agency), a government-funded agency committed to developing technologies useful to both the military and industrial sectors.

The announcement was made to some 350 Sandians and members of the press gathered in Sandia's Technology Transfer Center Jan. 14. Attending the ceremony were US Senators Pete Domenici and Jeff Bingaman, US Representative Steve Schiff, Assistant Secretaries of Energy Richard Claytor and

Leo Duffy, DARPA Director Gary Denman, and DOE's Kirtland Area Office Manager Kathy Carlson. (See "NM Delegates Call New Center a 'Long Overdue' First Step" on page four.)

The formation of NCAICM was sparked by a \$60 million appropriation to DARPA requested by Domenici under the 1993 Defense Appropriations Bill. DARPA will dedicate some \$12 million of that funding to staff and equip the new center; the other \$48 million will be competitively awarded to specific R&D projects through the center.

Beating the Competition

NCAICM integrates federal and commercial information components manufacturing R&D under one umbrella, says Bill Alzheimer, Director of Advanced Manufacturing Technology Center 2900 and temporary Labs coordinator of the center (a permanent manager will be named soon).

It provides space and equipment to support development of manufacturing processes primarily for microelectronics, optoelectronics, and flat panel displays, three major technologies of the information age that will account for most of the international information components market in coming years, says Paul Percy, Director of Microelectronics and Photonics Core Competency Center 1300.

Although NCAICM is located at Sandia, employees from Los Alamos and Lawrence Livermore national labs will be on site to help operate the center, he says, and Sandia,

(Continued on Page Four)

Tool for Self-Improvement

Second Upward Feedback Hits Mailboxes Soon

Upward Feedback — the anonymous employee survey that turned Sandia's traditional "one-way street" of communication into a busy two-way street — is back. And this time, managers will be able to see if they've made any progress in the eyes of the people who work for them.

Two years ago, Sandia's first corporate-wide Upward Feedback survey asked employees to evaluate their own managers by providing anonymous feedback about their management styles and success in implementing corporate values.

Surveys were collected and analyzed, and survey data about each manager was sent to that manager. For confidentiality, no one except the manager

"Often, individual comments are more useful than all the survey data."

being reviewed received a copy of his or her survey results. Trained internal consultants helped managers interpret the feedback, if requested.

Susan Harty (7531), Upward Feedback administrator, says the first survey accomplished its goals — it opened lines of communication between managers and employees, encouraged a spirit of teamwork, and gave managers an opportunity to identify behaviors, both positive and negative, that influence their organization's effectiveness.

And, according to follow-up surveys, most participants (both employees and managers) rated the program "good" or "excellent" as a tool for management self-improvement.

"Feedback between employees and managers
(Continued on Page Six)



LAB NEWS

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IN 1989, Wendell Weart, Manager of WIPP Project Dept. 6303 (in driver's seat), showed former Secretary of Energy James Watkins (next to Wendell) around the tunnels and underground storage bins of the Waste Isolation Pilot Plant (WIPP) near Carlsbad, N.M. Last week, Wendell received one of three nationwide DOE contractor program manager awards for his outstanding management of WIPP operations and more than 30 years of service to DOE. Labs President Al Narath received one of three nationwide DOE contractor manager awards recognizing heads of DOE facilities. Read more about the awards and their recipients on page five.

This & That

Looking for the "Best Buzz" - If I hear one more Sandian talk about "new paradigms" I may not be able to stifle a scream. I still think a paradigm should equal twenty cents (think about it!). I cringe every time I hear Sandians say "champion" as a noun meaning leader and as a verb meaning to advocate. Plus, I'm not at all fond of all the "socializing" (discussing, I think it means) of issues that Sandians do.

Having achieved no success in stamping out buzzwords at Sandia, I've decided to take a different approach - a contest to see which Sandian can make up the best coherent sentence using as many different buzzwords as possible, with a maximum of 25 total words in the sentence. Send entries to Buzzwords, Dept. 7162 (or fax 'em to 844-0645), to arrive by noon on Friday, Feb. 12. We'll publish the best one and the winner's name in the Feb. 19 issue. Group and anonymous entries are welcome, but directors and above aren't eligible; they have too much practical experience.

Late Resolution - I'm late getting to lots of things these days (I'll start on that required Work Plan any day now, Glen), but I knew you'd still want to hear my main work-related New Year's resolution. I resolve to be polite to Sandians who call me on the very day their "big doin's" is going on and ask if I can send a writer and/or photographer to cover it for the LAB NEWS - even though the caller has known about it for weeks or months. Callers usually start much like this: "We realize we should've called you long before now, but my director was wondering if you could . . ."

Have They Finally Flipped? - That was the lead-in I used for a Dec. 18 column item after I learned that my colleagues in Public Relations Dept. 7161 had invited Albuquerque-area activists Don Hancock and Michael Guerrero to speak at a Community Focus forum Jan. 14. Several hundred Sandians attended and saw Guerrero hold up a copy of the LAB NEWS and mention that wording as he launched his talk. An audience member later claimed to have been offended by the phrase.

My response: I often don't agree with what some activists say and how they go about their business, but I'm all for open dialogue and forums. I'm actually pleased that Hancock and Guerrero had a chance to come to Sandia and have their say. The whole idea behind using the "flipped phrase" was to stir up some interest in the event; you don't do that by being bland and boring - as Hancock and Guerrero know well. Finally, if you get offended by phrases such as this, you get offended too easily.

Repeating our policy on speakers, we don't have the space or staff time to cover every speaker who comes to Sandia. Readership surveys showed that such stories weren't well read back when the LAB NEWS published them. If you couldn't make the Jan. 14 forum, however, you can check out a copy of the videotape from the Sandia/New Mexico Technical Library; check with the circulation desk (4-2738) for details.

And my answer to the basic question - Nah, my colleagues haven't flipped. It may seem that way, but they've always been a little strange!

Top This One - Regular readers know my interest in unusual names and titles. Now, I'm not a cowperson (my 18-year-old boots are still in great shape), but I do listen to some C&W music occasionally, and some of the song titles sure qualify as unusual. "Bubba Shot the Juke Box" is one I heard recently. A real classic is "I've got Tears in My Ears from Lyin' on My Back Cryin' Over You," but my all-time favorite is one that I heard only once (Is it any wonder?): "The Flag's Up On Her Mailbox Tonight, and I'm the Male She's Waitin' For."

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'Duggin' Is the Name

Our apologies to recent Sandia retiree Billy Duggin, whose name was spelled incorrectly in the Jan. 8 issue. Here is his photo again, this time with the correct spelling.



Billy Duggin
1221

44

Take Note

The Albuquerque Coalition for Outdoor Recreational Development promotes expansion of the city's outdoor recreation and physical fitness facilities. A current project is the planning of a long-term recreational trail network suitable for walkers, runners, bicyclists, inline skaters, and similar users. Such a network would also increase possibilities for commuting by non-motorized means. For information about the organization, call Pete Stirbis (1562) on 299-8442 or John Shunny (ret.) on 265-1620 (mornings best).

feed back

Q: Now that APS [Albuquerque Public School system] has banned gang-related articles of clothing (L.A. Raiders caps, T-shirts, jerseys, etc.), isn't it time that Sandia do likewise and continue to be a leader in our community? A recent tour through one of our main shops left the group wondering out loud if our security guards were assigned for security reasons or for personal protection. Just what is the image that Sandia is attempting to portray?

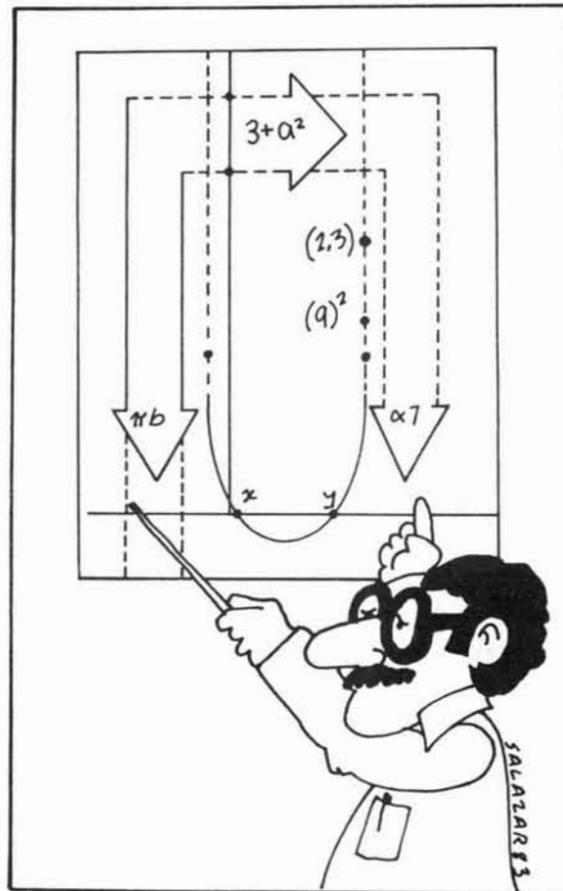
A: Sandia's Code of Conduct states, "Mature judgment should be used in deciding what is appropriate and suitable dress, taking into account the season, work environment, nature of the job, safety, and human relations factors. Attire of employees must not disrupt efficiency and productivity. Employees whose attire does not meet these standards may be subject to disciplinary action and may be sent home to return to work in safe and non-disruptive attire." SLI 1900 basically reiterates this policy but does add, "Supervisors will document any disciplinary action taken."

I assume you recognize some differences between the APS situation and Sandia. To become a Sandia employee, an individual must qualify for, and retain, a Q-clearance. Consequently, Sandians are held to a much higher accountability than an APS student. The initial Q-clearance process and five-year update process thoroughly investigate all individuals and their non-work activities.

Sports-related clothing does not reflect gang affiliations. Many individuals wear team caps or T-shirts because they support that team. Sandia does not want to get itself into the position where it mandates the type of clothing worn by its employees. As stated above, it is the responsibility of each manager to determine the appropriateness of their employees' clothing.

Sandia's concerns about clothing are related to safety, efficiency, and productivity. The shops are especially concerned with safety due to the nature of the work, and the shop employees dress appropriately for the type of work they perform. Consequently, Sandia will not be banning sports-related articles of clothing in the foreseeable future.

Ralph Bonner (7500)



THIS CARTOON appeared in the LAB NEWS nearly 10 years ago, in February 1983. The caption read, "So that's how the new bi-weekly payroll system works. Any questions?" We thought it might be appropriate to rerun now. Just remove the "bi-" from the original caption, and it'll have meaning for folks who have just been switched from the semi-monthly payroll to the weekly one. Tom Salazar, now in Art Dept. 7155, drew the cartoon; he was a Sandia security force guard at the time.

*With Help from Sandia***Airplane Engines May 'Fly' Energy Production into the 21st Century**

Fueled with natural gas and operating in new types of power-generation cycles, advanced aircraft engines may be just the ticket for an alternative energy source that combines high efficiency and low pollution in a moderate-sized package.

At least that's the hope of Pat Falcone of Exploratory Development Dept. 8111, who chairs a new technical review committee evaluating this kind of technology for a group of utility concerns and airplane-engine makers.

One example of the new electricity-generating cycles being looked at, says Pat, is a chemically recuperated gas turbine cycle. The waste exhaust

In the first few years of the next century, many of California's outdated fossil power plants must be replaced.

heat from the turbine would be used to extract hydrogen from methane, and then the hydrogen would be put back into the turbine for combustion, lowering the emission of nitrogen oxides.

The multimillion-dollar project brings together nine utility concerns, including the California Energy Commission and Pacific Gas & Electric (PG&E), into a major research program with three manufacturers of airplane engines. The effort is called the Collaborative Advanced Gas Turbine (CAGT) Project. Collaborators with Pat at Sandia are Ann Yoshimura, a chemical engineer in Systems Research Dept. 8112, and Andy Lutz, a mechanical engineer in Computational Mechanics Dept. 8745.

Pat says, "Sandia has been asked to act as an objective technical broker providing review,

oversight, and assessment. The utilities themselves don't have the technical capability to review the vendors' work; and they have found that vendors can overestimate or underestimate the capabilities of new technologies."

Labs' Impartiality Prized

"We're an independent organization that can draw upon our technical expertise in areas of energy systems, combustion and emissions, and materials to assess what the vendors have produced in the context of what the utilities need," Pat explains. "We also can project when the technology will be ready for commercialization."

To meet the objectives of the CAGT project, the technology must be ready for installation within the first few years of the next century, when many of California's already outdated fossil power plants will be replaced. By the year 2000, the youngest of PG&E's current plants will be 30 years old.

"We know that we have terribly inefficient power plants in California," says Pat. "They are operating at just above 30 percent efficiency.

"If we make a major investment and purchase what's available on the market today, it would be



PAT FALCONE (left, 8111) with her counterpart Donna Lindquist, PG&E Project Manager.

possible to achieve close to 50 percent efficiency. We believe that the advanced turbine systems under study could reach 55 percent efficiency and possibly as much as 60 percent with improved advantages of smaller plants and ultra-low emissions of pollutants. Utilities already are moving toward smaller plant sizes, so this project is attractive to them."

Phase one, already under way, is aimed at selecting the best technology through studies to evaluate applications of assembly-line engines in advanced power-generation cycles. The \$5 million cost for phase one is being underwritten through contributions of the utility concerns in the CAGT project. Phase two is envisioned to be hardware development and demonstration of the technology.

Pat says, "The theory is that we can take advantage of the tremendous outlay of research and development that the government and vendors

Favorite Old Photo

IN DAYS OF OLD, when knights were bold and all engineers wore ties, especially at Sandia . . . Looking at the solution to the "missile gap" — the USS *George Washington* and the Polaris Mk 1 — were a group of Sandia engineers (from left): me (Doug Macmillan), Lee Davies (ret.), George Steinhauer (former Sandian), Ray Sheppard (ret.), Jerry Maloney (dec.), and John Anderson (dec.). For those too young to remember, the "missile gap" was a subject of political controversy about 1960 when the Soviet Union had a lead over the US in numbers of ballistic missiles. This photo was shot in March 1961, as attested by the calendar on the wall above Jerry's head (the date is just legible on the original print). We were among the Sandia engineers who worked on the warhead for the Polaris, which was the first ballistic missile that could be fired from a submerged submarine. The *George Washington* went into commission on Dec. 30, 1959, and fired its first Polaris from underwater the following summer.

— Doug Macmillan (8453)



already have put into making commercial airplane engines perform more efficiently. It's technology transfer from the transportation sector to the energy-generation sector."

Praise from DOE

The project, and Sandia's involvement, already have received accolades from Gerald Braun, Director of Advanced Energy Systems with PG&E and chair of the executive steering committee of the project.

In a letter to Warren Chernock, Deputy Science and Technology Advisor in DOE/Defense Programs, Braun wrote, "The program will have many national energy and environmental benefits for multiple regions of the country and sectors of the economy, including domestic aircraft engine manufacturers, electric equipment suppliers, gas producers, gas transportation companies, gas utilities, and electric utilities. Over 30 electric and gas utilities have expressed an interest in the program, indicating the strong market pull for higher efficiency technologies."

He continued, "Sandia should be commended for its aggressive efforts to seek out and support energy industry initiatives." Braun concluded, "We are writing because we know that DOE is attempting to facilitate better application of National Laboratory capabilities to private sector

(Continued on Page Five)

Dignitaries Call New Center a 'Long Overdue' First Step

Here's what some visiting dignitaries had to say about the National Center for Advanced Information Components Manufacturing (NCAICM) during the announcement ceremony at Sandia Jan. 14.

US Senator Pete Domenici: "There is no doubt in my mind we are today celebrating a great, great mission here. It is going to be historic for Sandia, Los Alamos, Livermore, DARPA, and clearly for the people of this country, because our industry in communications in the future is going to benefit, and everyone knows that's a giant part of America's future, both in terms of jobs and prosperity."

US Senator Jeff Bingaman: "I see today's announcement as a long overdue melding of the very best institutions and capabilities of two departments, DoD and DOE, and with industry itself."

"It is precisely this sort of effort which I believe President Clinton was talking about when he spoke in this very room in September about marshaling the vast scientific and engineering resources of this country to the business

of rebuilding America, [by pursuing] dual-use technologies and partnerships between government and industry and emphasizing manufacturing and process technologies, which have long been neglected both by government and industry."

US Representative Steve Schiff: "I'm totally convinced that the future of the US economy in terms of national competitiveness with the Europeans and the Japanese is dependent upon the sharing of all of our national assets together. That is, the separation between defense and the civilian economy, the separation between government and private enterprise, has to be changed because all of the other countries are doing so now."

"They've put their resources together in terms of producing con-



REP. STEVE SCHIFF

sumer purchasable goods that can be sold on the market, on a worldwide basis, and we've got to do the same. This is one more step in that direction, and I think we need to take many more steps."

DARPA Director Gary Denman: "There certainly is a consensus that advanced technologies are not moving through the development pipeline into both military and commercial products at a pace that provides not only affordable products to the DoD but also popular products to the world marketplace . . . Sandia and the other DOE labs, through this center, can provide us some unique capabilities that can help break down some of the barriers."

Assistant Secretary of Energy Richard Claytor: "This center is yet another new method for partnering with American companies. It provides shared infrastructure, laboratory-industry teaming, competitive selection of the best proposals (with industry perspective carefully considered), and joint research and development. We will enthusiastically join with DARPA to make this new center a success."

(Continued from Page One)

New Center

along with its industry partners, will compete for specific R&D projects with other joint industry-laboratory teams. (As many as six Sandia full-time employees may be assigned to operate the center.)

An early focus of the NCAICM will be flat panel displays, video units 2 to 3 inches thick that can hang on a wall like a picture. Although Japanese and other foreign manufacturers already dominate the market for small-area flat panel displays, says Paul, larger-area displays (possibly 50 inches or larger, measured diagonally) are needed for high-definition television, video monitors, and other commercial and industrial uses.

Current small-area flat panel displays are liquid-crystal-based, but many US manufacturers



SEN. PETE DOMENICI

believe liquid crystal technology cannot be scaled up into larger-area displays. As a result, the new center will study how to manufacture large-area flat panel displays using both liquid crystal and other technologies, such as plasma and electroluminescence.

"If we can capture the market for large flat panel displays," said Domenici, "we may in the future have a TV set up on the wall that's [about 2 inches] thick. And America might be the one producing it for the world."

Another major thrust of the NCAICM is to concentrate on dual-use technologies: products with applications in both the commercial and military sectors. Large-area flat panel displays, for instance, are also needed as small, lightweight, and portable video displays in fighters, submarines, tanks, and other military vehicles to relay information to the battlefield. DOE may also use the displays for high-definition engineering design work and for monitoring instrumentation for nuclear reactors and other facilities.

Beyond undertaking development projects for specific information component technologies, the

NCAICM is expected to pioneer and refine manufacturing approaches that may help transform US plants into the knowledge-based, agile factories of the future (see LAB NEWS, Jan. 8, for more on "agile" manufacturing).

'Critical Link'

NCAICM will also compress the time and effort necessary to translate new manufacturing technologies into commercial and defense products.

"This center will be a critical link between the laboratory and the marketplace in critical technologies, and it establishes an exciting new avenue of collaboration and cooperation between the federal government and American industry," said Domenici. "This will make United States industry more productive and competitive."

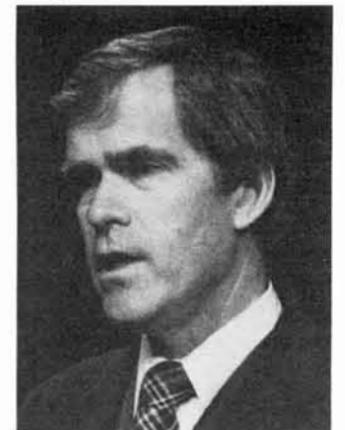
NCAICM will allow industry and government researchers to take advantage of a variety of capabilities and facilities available at Sandia, including manufacturing expertise at Sandia's Process Development Laboratory, Microelectronics Development Laboratory, Compound Semiconductor Research Laboratory, Advanced Manufacturing Center, Microelectronics Quality/Reliability Center, and the recently formed Center for Microelectronics Technologies.

In addition, NCAICM activities will be closely aligned with the Semiconductor Equip-

ment Technology Center (SETEC) and Contamination-Free Manufacturing Center (CFM) — Sandia research programs supported by DARPA through SEMATECH, a consortium of US semiconductor manufacturers.

"It's clear that there's technology at the laboratories that can be leveraged to produce better products and gain market share," says Heinz Schmitt, VP for Component Development and Engineering Support. "But it will only happen if there is strong teaming between the people at the Labs, the people at DARPA, and the people in industry."

"This center brings together the strengths of Sandia, the strengths of DARPA, and it brings them together to help the country meet its needs in the broad array of electronics and display technologies," said Bingaman. "I hope the end result will be creation of initial manufacturing jobs in the American economy for American workers, hopefully many of these right here in New Mexico." ●JG



SEN. JEFF BINGAMAN

Take Note

The Albuquerque Unit of the American Cancer Society will host a masked costume ball in celebration of Mardi Gras on Saturday, Feb. 6, from 6 to 10 p.m. at the Ramada Hotel Classic. The ballroom will be transformed into "New Orleans" with scenery from the Albuquerque Civic Light Opera. The event includes a silent auction (items donated by local businesses) and choosing a Mardi Gras king and queen. Celebrity emcees will preside over the festivities. Prizes will be awarded for the most beautiful and creative costumes. Proceeds from the ball will be used to fund community public education programs and support services for adults and children living with cancer. Tickets are \$35 and are available at Ticketmaster locations. For more information, contact the American Cancer Society on 262-2333.

The second annual "Ask the Environmental Experts" workshop, sponsored by the UNM College of Engineering and the Waste-Management Education and Research Consortium, will be held Jan. 27-29 at the Picacho Plaza Hotel in Santa Fe. This three-day workshop focuses on environmental solutions, waste minimization, and pollution prevention. The intended audience includes regulatory managers and other professionals involved in minimizing waste in their organizations. Presenters include scientists, engineers, and professors from national laboratories, government agencies, universities, and private industry. For more information, contact the UNM Professional Engineering Development Office on 277-5875 or 1-800-292-7051.

Sandians Get Two of Six Awards for 1992**DOE Recognizes Wendell Weart and Al Narath With First-Ever Awards for Management Excellence**

Sandians were the recipients of two national awards for contractor management announced last week by DOE.

Wendell Weart (6303), Manager of WIPP (Waste Isolation Pilot Plant) Project Dept. 6303, received a 1992 outstanding contractor program manager award. Al Narath, Sandia President, received a 1992 outstanding contractor manager award.

The management excellence awards are given to managers and program managers at DOE contractor-operated facilities. According to DOE, the awards recognize "contractor managers who have excelled at their missions while taking on important enhanced responsibilities such as increased environmental, safety, and health compliance."

The outstanding contractor manager awards recognize heads of facilities, and the outstanding contractor program manager awards recognize senior managers of specific programs for excellent management leadership, outstanding internal management systems, technical excellence in operating the facility and in ES&H compliance, and responsiveness to DOE direction.

'Time to Reward Excellence'

This is the first year the awards have been given. Said Secretary of Energy James Watkins, "It is time to recognize and reward excellence in contractor management while continuing to create an environment that promotes that excellence."

Richard Claytor, DOE Assistant Secretary for Defense Programs, and Leo Duffy, DOE Assistant Secretary for Environmental Restoration and Waste

Management, presented the awards.

Al said, "I am delighted to accept this DOE award on behalf of all Sandians. It represents an encouraging expression of customer satisfaction with our efforts to enhance Sandia's value to the nation during this time of rapid change."

Wendell said, "One doesn't accomplish something like this by working in a vacuum. I clearly have been fortunate to be surrounded by outstanding people, people who have made it easy for me to make the right decisions here at Sandia — outstanding researchers, outstanding support people."

Wendell has been with Sandia since 1959. He has a BA in geology and mathematics from Cornell College in Iowa and a PhD in geophysics from the University of Wisconsin. He was a Sandia technical staff member for 10 years, then became Supervisor of the Underground Physics Division.

He became Manager of the Nuclear Waste Technology Department in 1975 and has since been technical manager of the program to develop a nuclear waste isolation and research facility for defense wastes — the WIPP project near Carlsbad, N.M. He has organized and directed site evaluation studies and research on the interaction of radioactive waste with the geologic environment.

Al joined Sandia in 1959 as a member of the technical staff in the research organization. He has a BS in chemistry from the University of Cincinnati and a PhD in physical chemistry from the University of California at Berkeley. He moved up through Sandia and became Vice President for Research in 1973 and Executive Vice President in

1982. In 1984 he transferred to AT&T Bell Laboratories as Vice President, Government Systems, where he had responsibility for all Bell Labs systems engineering and development activities for the federal government. He returned to Sandia as President in April 1989.

The awards to Al and Wendell are two of six announced by DOE, three contractor management awards and three contractor program management awards. Each includes a \$20,000 stipend. Sandia was the only DOE facility to receive more than one. The four other awards went to managers at the Idaho National Engineering Laboratory, the Naval Petroleum Reserves, the National Renewable Energy Laboratory, and Brookhaven National Laboratory. ●

Sympathy

To Valerie Griego (611) on the death of her father, to Rey Griego (7612) on the death of his brother, to Robert Romero (2473) on the death of his brother-in-law, and to Bernadette Sinclair (5701) on the death of her uncle in Albuquerque, Dec. 27.

To Bernadette Sinclair (5701) on the death of her father-in-law in Belen, Dec. 28.

To Mike Corcoran (7615) on the death of his mother in Albuquerque, Dec. 20.

To David Braudaway (4343) on the death of his mother in Albuquerque, Jan. 10.

To John (9723) and Patricia (2741) Holovka on the death of his father and her father-in-law in San Jose, Calif., Jan. 14.

(Continued from Page Three)

Airplane Engines For Electricity

needs. We want to affirm this policy and hold Sandia's support of our project up as a success story and positive example for others."

Rotation to PG&E

While the project is just now increasing its visibility, its foundations have been laid at Sandia and PG&E for more than a year. Pat received a part-time rotation appointment at PG&E's research and development office in San Ramon in 1991. For a year, she spent half of her time working in a PG&E office, setting up the collaborative project and learning how things worked inside PG&E.

Pat says, "The rotation concept is quite common at PG&E but unusual for Sandia. Although we have a strong tradition of working in Washington and even of having employees from private industry come here, we have worked at private industry locations less frequently."

The rotation evolved because Carl Weinberg, manager of R&D at PG&E, maintains that "technology transfer is a contact sport." Pat explains: "It's important for people who are going to work together to share each other's contexts or work environments."

The experience has been eye-opening, says Pat: "I knew that with the end of the Cold War, Sandia was going through a tremendous change in mission and operation. What I found out was that the utilities — and I believe many US businesses — are undergoing tremendous changes as well. The traditional roles of utilities are being redefined, particularly their responsibilities in demand-side management and new generation technologies."

The rotation to PG&E enabled Pat to identify

important technical issues that Sandia could address. A Sandia laboratory-directed research and development (LDRD) award in FY92 (renewed for FY93) led to the design and development of a model to analyze and compare the efficiency of different gas-turbine power cycles on a common basis. Cycle comparisons include an assessment of emissions of such pollutants as oxides of nitrogen, carbon dioxide, and carbon monoxide.

Pat says many groups have more experience with the turbines themselves, but Sandia was asked to get involved because of its ability to assess performance from a systems perspective.

Although it is impossible to predict where change will lead, Pat says, "This technology may

"This technology may be just the bridge to take us from present technology into the future."

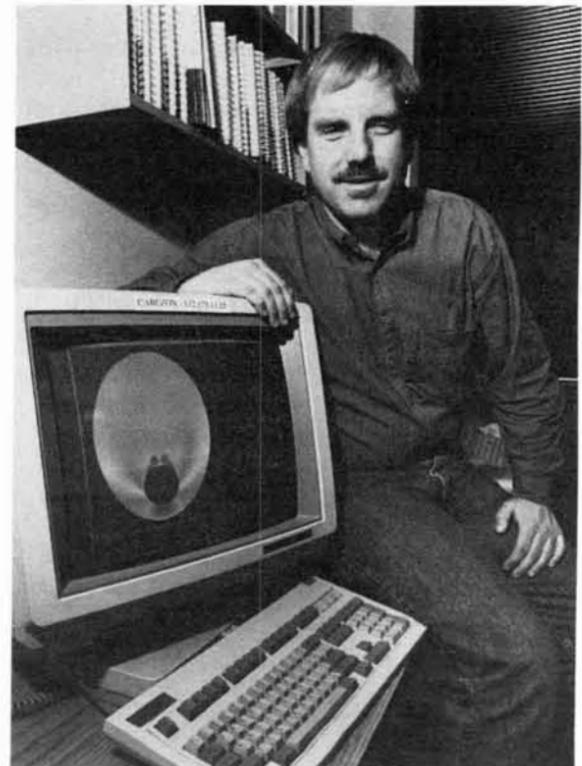
be just the bridge to take us from present technology into the future. Modern airplane engines in advanced cycles are an efficient, clean way to use natural gas. Advanced cycles can be packaged into relatively small and flexible units that would relate well to future alternative energy sources."

Utility interests in the collaboration include the California Energy Commission, ELKRAFT Power Company Ltd. (Denmark), Electric Power Research Institute, Gas Research Institute, Pacific Gas & Electric, Sacramento Municipal Utility District, San Diego Gas & Electric, Southern California Edison, and Southern California Gas. ●

Congratulations

To Nina Bergan (8113) and Phillip French, married June 13 at Lake Tahoe, Nev.

To Melody and Kevin (5365) Carbiener, a daughter, Katelyn Rose, Dec. 7.



COMPUTING POWER lets Doug Cline (1421) illustrate the forces at work on a reentry vehicle moving at a high angle-of-attack. Doug and Alan Stagg, a University of Texas PhD candidate, worked out calculations to simulate the event when Stagg worked at Sandia last year. A color reproduction of the simulation was selected by *Aviation Week & Space Technology* editors as the cover illustration of their Dec. 7, 1992, issue featuring several articles on the shifting research focus of US national labs. In one cross-section of the simulation, shown on the computer screen, the small dark circle represents the aerodynamic cone of the vehicle, and the larger, lighter oval represents the shape of the bow shock created as the vehicle moves along its trajectory. Doug says such modeling would not be possible without the Labs' massively parallel computers.

(Continued from Page One)

Upward Feedback

is usually in the form of downward performance evaluations," says Susan. "Upward Feedback allows managers to look at themselves through the eyes of the people who work for them."

Upward Feedback: The Sequel

Because of the program's initial success, she says, a new round of surveys will be sent out soon. The Labs has been divided into five groups; questionnaires will be mailed out beginning in February (starting with organization 7000) with start dates approximately one month apart. (Watch the *Weekly Bulletin* for more information.)

Employees may notice a few differences in this year's program, however, she says.

As part of the first Upward Feedback survey, Sandians evaluated both their own manager and the manager two levels up in their organization (called their "skip-level" manager). Because Labs restructuring eliminated one level of management, says Susan, skip-level evaluations are being excluded from this year's program. Employees will now evaluate only their own managers.

"Most employees don't have enough access to their directors to make a skip-level report valuable," says Susan. Eliminating the skip-level report also reduces the survey's cost because it cuts the number of questionnaires in half, she adds.

Another significant change is the individual comment section of the survey, where respondents are asked to provide specific suggestions for improvement. This year, respondents will be asked to type their comments on a typewriter or word processor, although handwritten comments

will still be transcribed, says Susan.

"Transcribing individual comments accounts for a large portion of the cost of administering the survey," she says. "Typewritten comments can be compiled and given to each manager directly without jeopardizing anonymity."

Respondents are also being reminded to use the comment section to criticize constructively, focusing on specific suggestions for improvement rather than blanket criticisms. "Often, individual comments are more useful to a manager than all the survey data," says Susan. "Comments made in a constructive manner really get down to the root causes of problems."

Some Sandia managers apparently did not develop action plans or conduct meetings with employees to discuss improving their performance as a result of the first survey, she says. Following this year's survey, managers will be asked to inform their managers after they have conducted feedback meetings and developed action plans.

Also a Benchmarking Tool

Susan says the first Upward Feedback survey taught managers a lot about themselves. For instance, Sandia managers as a group scored well in respect for the individual and in integrity, and employees felt that most managers generally respect and keep confidences and are committed

Watch the Weekly Bulletin . . .

Briefings will be held for employees and managers interested in learning more about the Upward Feedback program. Watch the *Weekly Bulletin* for dates and times of briefings and other Upward Feedback events.

to the future of Sandia.

But managers did not score so well in encouraging teamwork or in disciplining and criticizing people constructively. Employees also felt that managers didn't ensure that employees understood the value of their contributions.

"The first survey showed managers the areas they needed to work on individually and as a group," she says. "Now they'll be able to watch their progress in those areas."

Because the survey is intended as a benchmarking tool, the same basic questionnaire will be used for this year's survey despite some doubts expressed about its value during the first survey.

"Managers can't benchmark their progress if the questions and format of the survey change," says Susan. "If this program is to be an effective tool for self-improvement year after year, we must keep the questionnaire and performance scale the same." ●JG

feed back

Q: As I review the new guidelines for bidding on MLS jobs, once again it is obvious to me that absolutely no credit or acknowledgment of any type is given for an associate degree. Many of us worked extremely hard for an AA or AS degree, and it is so discouraging to see that, once again, Sandia does not recognize this degree level, especially in administrative jobs.

I suggest that the committee that made the recommendations for the new guidelines revisit this and consider allowing the associate degree to, at the very least, substitute for one or two years of "professional level" experience. Since we are such a degree-oriented company, why not give credit where it is due?

A: The MLS movement guidelines are much less stringent than the previous guidelines. They establish an increased flexibility for the internal movement of individuals in the MA 4, MA 5, STA, TA, Team Supervisor, Executive Secretary, and Nurse categories with less than a bachelor's degree. Basically, in the absence of a bachelor's degree, five or more years of work experience now allows these individuals to become an MLS and greatly enhances their career paths at Sandia.

The Quality Action Team that reviewed the previous MLS movement guidelines, and revised them accordingly, considered the inclusion and movement of individuals with AA and AS degrees in the new guidelines. It was determined, however, that the new guidelines should ensure that individuals who become MLSs, either through internal movement or through external hiring, should generally meet equivalent standards. Sandia's minimum standards for hiring MLSs is a bachelor's degree in a relevant field. Consequently, the MLS movement guidelines, in order to be consistent with Sandia's external hiring standards, do not recognize the associate degree as a specific criterion for internal movement.

As mentioned above, however, there are conditions which allow on-roll people with less than a bachelor's degree to move into the MLS ranks. And while they are not required for movement to or within MA levels, AA or AS degrees are certainly valuable background for many MA jobs.

It should be reiterated that the new MLS movement guidelines are very liberal in comparison to previous guidelines and attempted to respond to concerns raised by the MA and technician populations. I see it as a very positive and proactive initiative.

Ralph Bonner (7500)

Get Schwarzenegger's 'John Hancock'

TLC Offers Family Fitness Program

The Total Life Concept (TLC) Employee Health Promotion Program has a new year's resolution: to help Sandians get involved in fitness with their families in 1993. The idea, says TLC's Michaeli Portman (7035), is to help families have fun together as they become more fit by participating in the Presidential Sports Award Program.

The program, established in 1972 to motivate Americans to get regular exercise, offers awards in 60 sports and activities. The list includes running, swimming, bicycling, aerobics, football, handball, gymnastics, scuba or skin diving, bowling, equestrian, golf, and many others. The program emphasizes regular participation, not necessarily outstanding performance.

Anyone over age 10 can get an award for 50 hours of participation in one or more activities over a four-month period. One hour a day, up to four hours a week, may be applied to the award.

Combinations of activities — such as two hours biking and two hours walking in one week — are permitted.

The award includes a certificate of achievement signed by the President, a letter of achievement signed by Arnold Schwarzenegger, a blazer patch for the appropriate sport or activity, a sports bag ID tag, and a shoe pocket that attaches to shoestrings for holding ID, keys, or money during a workout. Anyone earning the award may also purchase program merchandise, such as caps, t-shirts, sport shirts, coffee mugs, lapel pins, and bumper stickers.

The program is open to all Sandians and their families. Everyone who has participated in an activity through TLC is being sent information this month. Others who would like to participate may call Michaeli on 844-5411. ●

DON NORTON (6453) credits the Presidential Sports Award program with helping him get serious about fitness. Here, he does leg lifts on his home weight machine. Don has received 20 awards so far — in weight training, jogging, fitness walking, sports/fitness, and running — and has qualified for seven more.



Sandia News Briefs

New Center Will Coordinate External Communications

Sandia is establishing a new Corporate Communications Center to help plan and coordinate communication with external customers, the media, state and local governments, community organizations, and other outside groups. A center director, reporting to Laboratory Development Division VP Paul Robinson (4000), will be selected soon (position to be advertised in the Jan. 25 *Weekly Bulletin*).

In these rapidly changing times, says Paul, Sandia is dealing with many more customers and other groups outside the Labs, and there is increasing potential for both communication gaps and overlaps. He explains that the new center is being created to help with both types of problems: "We are trying to pull our act together to speak with a single cohesive voice."

Paul emphasizes that the idea is not to build a large new organization that will duplicate efforts, but to establish a center with a small support staff with matrix responsibilities to coordinate existing related communication programs throughout the Labs. The Corporate Communications Center also will serve as a resource to all Sandia organizations that deal with external groups, he notes.

Sandians Can Encourage Small Businesses to Seek Research Grants

Sandians working with appropriate small businesses are encouraged to make them aware of DOE's Small Business Innovation Research (SBIR) Program. Grants will be made to businesses to stimulate technological innovation in the private sector and to strengthen the small-business role in meeting energy-related federal R&D needs. The program has three phases: (1) a six-month feasibility demonstration, (2) up to a two-year period to develop and start to commercialize the technology, and (3) privately funded commercial application. Government funding is available for the first two phases in amounts up to \$75,000 and \$500,000.

Interested small businesses can request a copy of the solicitation by calling (301) 903-5707 or writing SBIR Program Manager, ER-16, US Dept. of Energy, Washington, D.C. 20585. Additional information, including a list of DOE's technical areas of interest, can be obtained from Kay Etzler, SBIR spokesperson, on (301) 903-5867. Completed grant applications are due March 8.

CRADAs Seek to Make Possible 3-D Images of Tiny Structures

Developing a commercial interfacial force microscope (IFM) is the goal of new cooperative research and development agreements (CRADAs) involving Sandia, Digital Instruments, AT&T Bell Labs, and the University of New Mexico. Such an instrument could be used to provide three-dimensional images and measurements of microfabricated structures such as microelectronics circuits or precision-machined materials. Sandians involved include Jack Houston and Terry Michalske (both 1114), who recently developed the interfacial force microscope; Brad Smith (1324) and Jeff Sniegowski (1325), who are developing micromachined structures to serve as sensors for the new IFM; and program coordinator Arnold Howard (1322).

Unlike the atomic force microscope, the IFM does not rely on direct contact between a probe tip and the specimen, which could damage tiny structures, notes Terry. Instead, an IFM senses the attractive force between the probe and the specimen surface and follows the topography of the surface without direct contact. It could also be used in areas ranging from fundamental studies of adhesion to cell biology, he says.

Labs Mass Spectrometer on Extended Loan to UNM

A Sandia mass spectrometer is on loan to the University of New Mexico's Chemistry Department to further its study of atmospheric chemistry. UNM Chemistry Professor Ed Walters says the device will be used primarily to study ozone-destroying chemicals such as halons and chlorofluorocarbons (CFCs), as well as aerosol surfaces such as ice, in the stratosphere. The loaned spectrometer replaces an aging device currently in use by the Chemistry Department.

Send potential Sandia News Briefs to LAB NEWS, Dept. 7162.



HISTORY FROM ITS MAKERS — Four retired Sandians who worked in Tech Area 2 visited the Labs last month to add their memories to information being collected for historical and environmental restoration purposes. Harold Rarrick (right, 2701) discusses Area 2 history with (from left) Bruce Berry (2514), Area 2 representative for the project; Phil Dailey, Area 2's first supervisor; Walt Drake; and Willie Reed. Andy Railey, who also helped with the project, is not pictured. All four retirees are Albuquerque-area residents. Harold notes that from 1946 to 1948, all US nuclear weapons were assembled elsewhere on Kirtland AFB; from 1948 until 1952, they were assembled only in Area 2.

this month in the past...

Sandia LAB NEWS

40 years ago... Creeping urbanism was starting to affect Albuquerque. A LAB NEWS ad offered a 3-year-old Guernsey cow that "churned out" four gallons of milk a day. The ad said, "Must sell. Home now in city limits." The new employee report from the previous month said 121 newcomers were hired from 22 states. Among the educational institutions attended by the group: Southern Baptist Theological Seminary, Loretta Heights College, and Davis and Elkins College.

30 years ago... As many as 3,000 Sandians were slated for training in network analysis (also known as PERT — Program Evaluation and Review Technique) to help them plan projects. The technique had been introduced into industry about five years before. (Just a year later, the LAB NEWS reported on Sandia's use of computers in preparing network charts.)

20 years ago... Sandia Laboratory Federal Credit Union's report for the previous year was issued, showing total assets of \$16.5 million and outstanding loans to members at \$12.3 million. (Today the assets total \$298 million, and outstanding loans \$166.9 million, according to SLFCU President and CEO Chris Jillson.) Sandia had recently joined the growing movement among large companies to provide programs to help employees experiencing alcohol problems; 52 Sandians were participating in Sandia's program in January 1973.

10 years ago... A prototype of Particle Beam Fusion Accelerator II's Marx generators was successfully tested. The Marx generator — essentially a capacitor bank — stored electrical energy and then discharged it in about a millionth of a second, showing that it could kick off the process of pulse forming and ion beam production needed for experiments in inertially confined nuclear fusion. PBFA II began operation in late 1985 (several weeks ahead of schedule) and continues to be used for work leading toward controlled fusion.

Welcome

Albuquerque — Craig Amundson (7212), Ruth Boyd (21), Nancy Clise (21), Elizabeth Fennel (7906), Janet Gaumer (21), Collette Herrick (21), Kathryn Krukar (181), Marlene Martin (21), Cecelia Olmstead (21), Linda Sickles (21), Jeanne Southward (21), Jack Stayton (334), Doris Swiney (21), Sandra Ulibarri (21), Barbara Williams (21). **Other New Mexico** — Karen Agee (21).

Elsewhere: California — Robert Floran (6621), Olga Spahn (1312), Jeffrey Young (121); **Tennessee** — John Berry (333); **Wisconsin** — Rebecca Brannon (1432).

Congratulations

To Irene (2883) and Bill (7816) Kolb, a daughter, Leigh Elizabeth, Dec. 2.

To Angela and Darren (6522) Talley, a daughter, Laurel Noelle, Dec. 30.

To Kristin and Kevin (6411) Maloney, a son, Ian Thomas, Jan. 2.

To Denise Coleman (9617) and Jeff Carlson (9543), married in Social Circle, Ga., Jan. 2.

To Julie and Doug (9538) Adams, twin daughters, Amy and Anna, Jan. 8.

'We can make a significant contribution. . .'

DOE Laboratory Directors Offer Help to President Clinton

In late November, Sandia President Al Narath and the leaders of Los Alamos National Lab and Lawrence Livermore National Lab jointly sent a letter to then-President-elect Bill Clinton, offering some ideas and the help of the three labs — in cooperation with other DOE labs — in solving some critical national problems. Here is the text of that letter:

Dear President-elect Clinton:

We appreciate the serious problems that face the country and the challenge you have in seeking to solve them. We would like to offer the help of our three labs in areas where science and technology can help make a difference. For most of our history, our labs have been diversifying into non-defense research, often developing strengths that many outside our labs do not realize exist. The other Department of Energy national laboratories, such as Oak Ridge National Laboratory, with whom we regularly work, also have considerable capabilities that can assist with your new initiatives.

We know from your statements in the campaign and during your visit to Sandia National Laboratories that you intend to make a number of changes that would use our talents in new ways. We are enthusiastic about assisting you in addressing the problems of the country and feel that we can make significant contributions to the initiatives you are about to establish. To accomplish our nuclear weapons mission over the past 50 years, we have developed significant scientific and engineering talent in a very broad array of areas; the nature of that work demanded that we stay at the forefront of these fields.

We have all been involved in efforts to change the focus of a significant portion of that talent at our labs on new areas of research that apply to non-defense areas such as environment, health and biotechnology, energy, and partnerships with industry to develop technologies needed for new or

improved products. We would like to accelerate those changes as a part of the new initiatives that are part of your plan to help solve this country's critical problems. These efforts would build upon the already substantial base that DOE has created. A large majority of these efforts are in technologies that have dual-use applications, being important in non-defense and defense applications.

We also expect to be called upon to continue to be the key R&D base for the significant issues involved in downsizing the nuclear weapons stockpile and developing options for handling the nuclear materials that will need significant attention. Our focus will be turned sharply to helping to prevent the proliferation of nuclear weapons. Nuclear proliferation may constitute the greatest security concern facing our nation during this time of rapid drawdown of nuclear weapons and materials in the former Soviet Union and in the United States. We can also contribute significantly to non-nuclear defense needs under the new policies you have outlined. But we focus in this letter on the non-defense area because we know that the health of the economy and competition in new technologies must be addressed as the top priority.

We would like to identify some of the key technical capabilities that we feel can be used in your initiatives, and then supply two examples to illustrate our argument.

Our three labs have supercomputing capabilities that are unrivaled anywhere in the world. We have significant capabilities in the areas of materials and materials processing, systems engineering and rapid prototyping, microelectronics and photonics, dynamic experimentation and diagnostics, engineering sciences and pulsed electrical power, laser and other beam technologies, nuclear technologies, and theory and complex systems. Drawing from all these areas, our three labs have jointly developed papers to describe the ways in which we can expand those efforts in ways that

will further the agenda you have established. We could supply those papers at a later date, but let us now simply focus on a few examples that we hope will interest you.

The first example is work that we believe could greatly enhance your concept of creating an information superhighway network. This would be a high bandwidth fiber optics *door-to-door information network*. There are many ways we could help turn this concept into a working reality. One contribution we could make is to develop an *integration testbed* to make sure that industry, students, and all users develop sophisticated applications that will fully use the capabilities of this infrastructure. We already serve as the national data base for human DNA sequence information, and we are large users of complex computer codes required for the science and technology we produce. We can assist other users in learning how to take advantage of the new network you have proposed. The progress made through this approach will clearly have dual-use applications.

A second example is environmental research in general and cleanup technology in particular. The Department of Energy is spending almost \$5 billion this year to clean up its sites, with higher levels projected for future years. More effective, less costly techniques are badly needed. As developed, these will also be available for US companies to market in the US and abroad in what is likely to be a huge international trade market. We are engaged in research efforts to find improved techniques and could do much more. We also play important roles in basic environmental research and could play a large role in shifting current defense resources to environmental monitoring from space and earth and conducting related analyses. The scientific disciplines at our labs and the other Department of Energy national laboratories are well matched for these tasks.

There are many additional areas where we
(Continued on Next Page)

Favorite Old Photo

'Stranded' Aviators Saved by Flying Chalkboard

My father, Lt. Col. Wallace Cramond, was observing another flyer on a routine takeoff one day in the early 1930s when the plane they were in became "stranded" in the air.

As their Douglas monoplane soared upward,

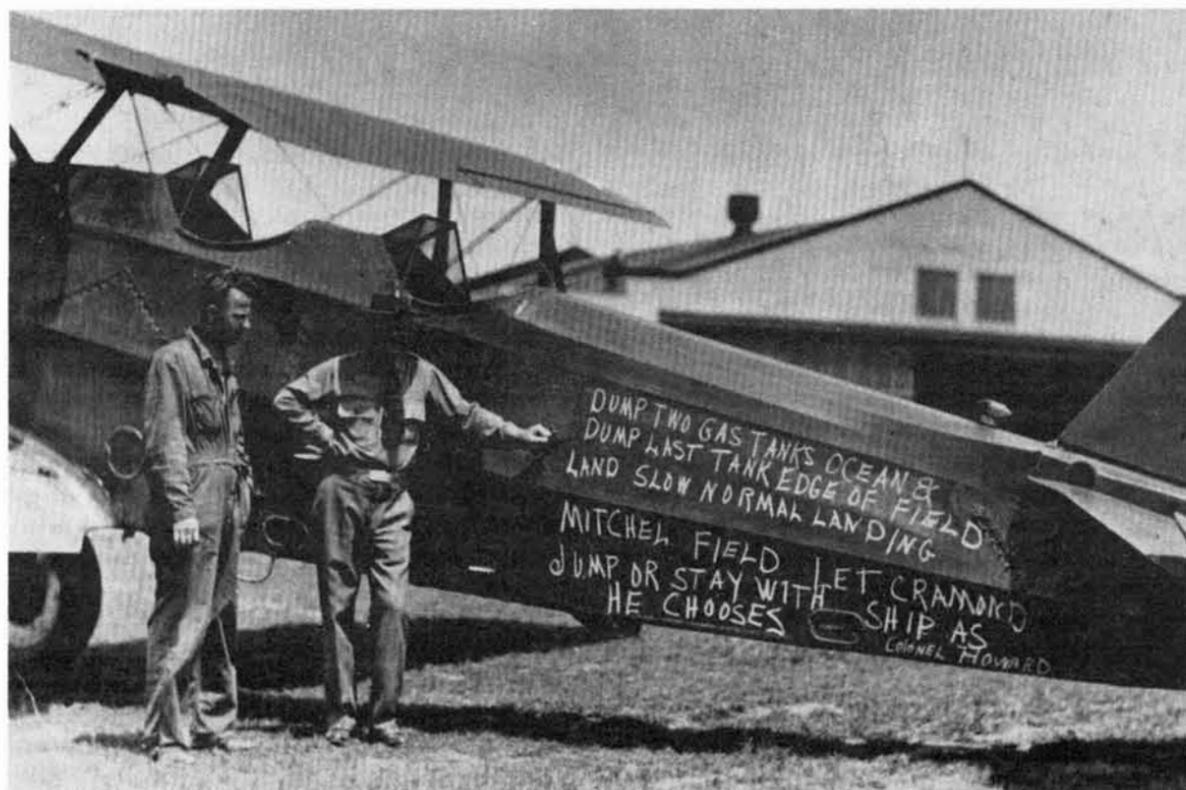
onlookers at Mitchell Field, N.Y. (on Long Island), noticed that oil was streaming out from beneath the fuselage as the hydraulic landing gear wavered and then retracted. The witnesses believed that the landing gear would probably not reopen if the pilot

tried to land. And if it did reopen, they surmised, the gear would probably collapse on impact with the ground. A crash landing was inevitable.

Because most planes then were not equipped with radios, instructions were painted on the side of another plane, the "Curtiss Jenny" in the photo, which was sent aloft to deliver the instructions to the pilot. As instructed, the stranded pilot flew out over the ocean and dumped as much fuel as possible before returning to the airfield to attempt a landing. Just before landing, the pilot dumped the last bit of fuel. My father, who mistrusted parachutes, stayed with the plane. Fortunately, the gear reopened and the plane made a perfect three-point landing.

My father was accustomed to crash landings. During the 1920s and '30s he was in seven crashes and walked away from all of them. In one case, his plane's gas tank ruptured, filling the cockpit with fuel and creating the possibility of a spark-induced fire upon landing. The story goes that my dad chose not to jump from the plane because he was unsure of the ill-fitting borrowed parachute he was wearing while his own was being repacked.

During his 32-year career with the Army Air Corps and Air Force, my father also adjusted Charles Lindbergh's compass before his historic trans-Atlantic flight and flew simulated night flights (the cockpit was hooded) with Jimmy Doolittle, racing pilot and World War II aviator who led the first US air raid on Tokyo, in 1942. — Wallis Cramond (ret.)



FOLLOW THAT PLANE — My father, Wallace Cramond (left), and instruction writer Col. Howard next to the Curtiss Jenny sent aloft to deliver written instructions to the "stranded" pilot.

Sandia News Briefs

Martinez Is Executive Chairman for Smart Structures and Materials Conference

The 2nd Annual North American Conference on Smart Structures and Materials takes place Jan. 31-Feb. 4 at the Hyatt Regency Hotel in Albuquerque. The conference covers smart materials, adaptive structures and integrated systems, sensor and actuator devices, smart skins and conformal radar, active and adaptive optics, mathematics in smart structures, and modeling, simulation, and control.

David Martinez, Manager of Structural Dynamics Dept. 1434, is the conference's executive chairman. Special one-day rates are available for Sandians who want to attend particular portions of the conference and who are professional society members; for more information, contact David on 4-1457.

Sandians Participating in Waste Management Video Conference Series

Several Sandians are participating in two new video conference series sponsored by the Waste-management and Education Research Consortium (WERC), according to Leo Gomez (6342), Sandia's liaison with WERC. Al Bendure (7731), Fred Harper (6413), and Robert Luna (Manager, 6603) will participate in or lead programs in the series "Environmental Risk Management: Bridging the Gap Between Technical and Social Concerns" that begins Feb. 3. Other Sandians may participate in later programs in this series or in the "Radioactive Waste Management" series that begins later. Each series will include eight programs.

Using live, interactive television broadcasts via satellite, WERC trainers cover technical concepts, social concerns, and communications issues of environmental risk management. The programs can be received throughout the US, and customers include many universities, military bases, and private companies. In the past three years, more than 8,000 participants have seen WERC programs, according to a University of New Mexico news release. WERC group members include UNM, Sandia, New Mexico State University, New Mexico Institute of Mining and Technology, Navajo Community College, and Los Alamos National Lab. DOE sponsors the group.

Solar Researchers Honored for Hurricane Relief Efforts

David Hasti, Manager of Photovoltaic Systems Research Dept. 6218, participated in a special DOE ceremony in Florida last month honoring 13 engineers and technicians who helped design and install photovoltaic (PV) systems to provide power in southern Florida after Hurricane Andrew. The 13 are employees of the Florida Solar Energy Center (FSEC), which operates the Photovoltaic Southeast Regional Experiment Station under contract to Sandia. The Labs also provides guidance for design assistance services that FSEC provides to PV manufacturers and users.

Sandia provided financial support for the solar relief effort after Hurricane Andrew did tremendous damage to southern Florida in August 1992, knocking out electrical power for long periods. The FSEC team installed lighting systems at several relief centers and larger PV systems at two emergency medical clinics to run equipment, lights, fans, and refrigerators for storing vaccines and other medicine. David says the experience and knowledge gained in the project will be useful in developing solar emergency power systems for use after other natural disasters.

Send potential Sandia News Briefs to LAB NEWS, Dept. 7162.

(Continued from Preceding Page)

Letter to Clinton

believe we can make a significant contribution to solutions you are developing for the problems our country faces. We offer our help, and would be pleased to discuss these further with you.

Sincerely,

Siegfried Hecker, Director
Los Alamos National Laboratory

Al Narath, President
Sandia National Laboratories

John Nuckolls, Director
Lawrence Livermore National Laboratory

Editor's Note: The papers mentioned in the letter are "Biotechnology and Health Care: Partners in the 21st Century," "Economic Competitiveness: An Enhanced Mission for the DOE National Security Laboratories," "Environmental Research and Cleanup: Implementing an Innovative National Program," "Partnerships for an Environmentally Driven Energy Strategy," "Transportation," "Halting and Containing the Spread of Weapons of Mass Destruction: The Role of the DOE National Security Laboratories," "Reconfiguring the Nuclear Weapons Complex," "Advanced Manufacturing: A Core Competency of the DOE National Security Laboratories and a Resource to US Industry," and "An Integration Testbed for the 21st Century National Information Infrastructure." All are dated Dec. 7, 1992.

Employees who are interested in reading the papers may see copies at the Technical Library Reference Desk.



THE GOVERNOR'S Business Executives for Education (GBEE), chaired by Lee Bray (left, Executive VP-30), last week announced plans for a pilot project to help improve New Mexico schools through a Malcolm Baldrige-style quality program. Gov. Bruce King (at the microphone) was also among the speakers, as was Charles Tapp, Director of Quality Improvement/Primary Standards Center 4300. The pilot project will involve an elementary, middle, and high school in the Cibola County school district. Sandians working on the project on a loan basis include Laurel Moore (4302) as project manager, assisted by Jim Clinch (4311), Bob Huelskamp (4112), Steve Wilkes (4309), and Whitney Wolf (4311). Loaned executives of other businesses also are working on the project.

Recent Retirees



Harry (Hal) Fisher
2665



Don Gluvna
5102



Chuck Wimmer
9331



John Marcon Jr.
2313

Open Houses

The Labs is holding open houses in honor of the following retirees: **Bob James** (7300) in Bldg. 880, Room C-11, on Thursday, Jan. 28, from 2 to 4 p.m.; and **Raymond Ails** (2341) in the Area 1 Cafeteria (Bldg. 861) on Monday, Feb. 1, from 1:30 to 3:30 p.m. Refreshments will be served. Friends and acquaintances are invited.

Shhhhhh! Surprise Banquet Planned for Retiring Sandian

Colleagues of retiring Sandian Lloyd Young (2712) plan to honor him with a surprise banquet and "roast" on Saturday, Jan. 30, in Las Vegas, Nev. Lloyd is the last of the original crew at Sandia's Tonopah Test Range (TTR), which began full-time testing in 1957.

All of Lloyd's colleagues and friends are invited to attend the banquet, which will be held at 7 p.m. in the Rio Suite Hotel. For more information, contact Jerry Boekankamp (contractor) at TTR on (702) 295-8439. Reservations must be made by Jan. 26.

Mike Sychala (2712) asks that Lloyd's friends help keep the banquet a surprise. He should not see this notice because he has already completed his final working day at the range.

Employee Death

William Sorenson of Electron Microscopy/Metallography Dept. 1822 died Jan. 9 after a long illness.

He was 51 years old.

William was a senior technical associate and had been at Sandia since 1977.

He is survived by his wife Diana (1701) and a son.

Retiree Deaths

Virgil Bailey (67).....Dec. 7
Chandra Carson (78)Dec. 12
Robert Hewitt (82)Dec. 16
Roy Adams (88)Dec. 17
Naomi Kelly (70)Dec. 18
Eugene Aas (73)Dec. 20

MILEPOSTS

LAB NEWS

January 1993



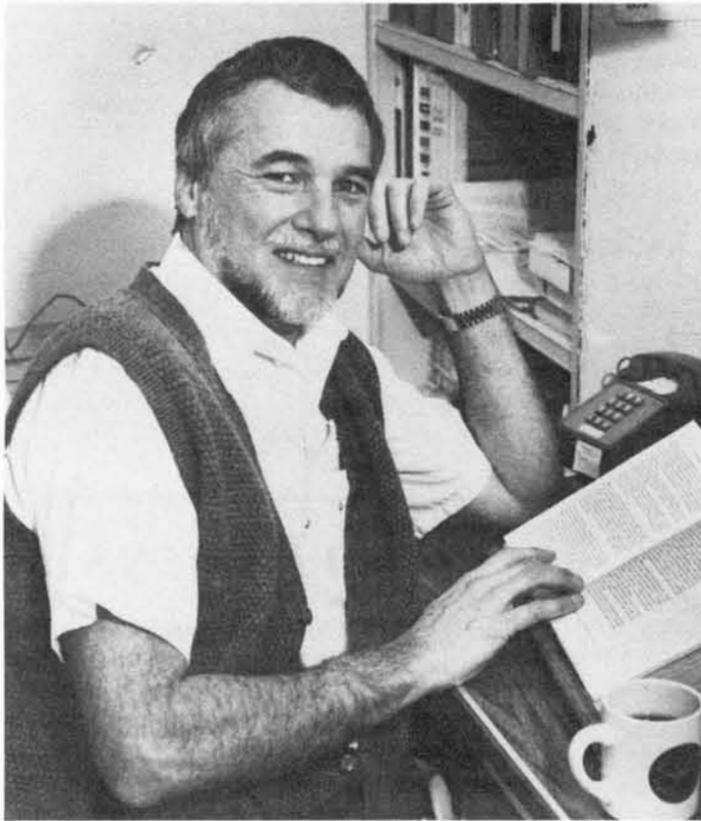
William Atkins
5513 40



Delia Quintana
7212 20



Del Olson
5000 40



Louis Feltz
5941 30



Stanley Kawka
5712 15



Adron Pritchard
7151 30



Charles Hollis
7812 15



Olen Thompson
4201 25



Eloy Montano
7813 15



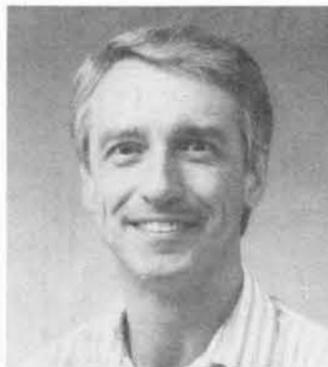
Richard Rudolph
2732 40



Paul Merillat
5701 15



Michael Bukaty
9002 20



Chuck Miller
9227 15



Virginia Padilla
300 25



Regan Stinnett
1205 15



William Dawes
35 25



William Prgent
9615 15



Ward Bower
6218 30



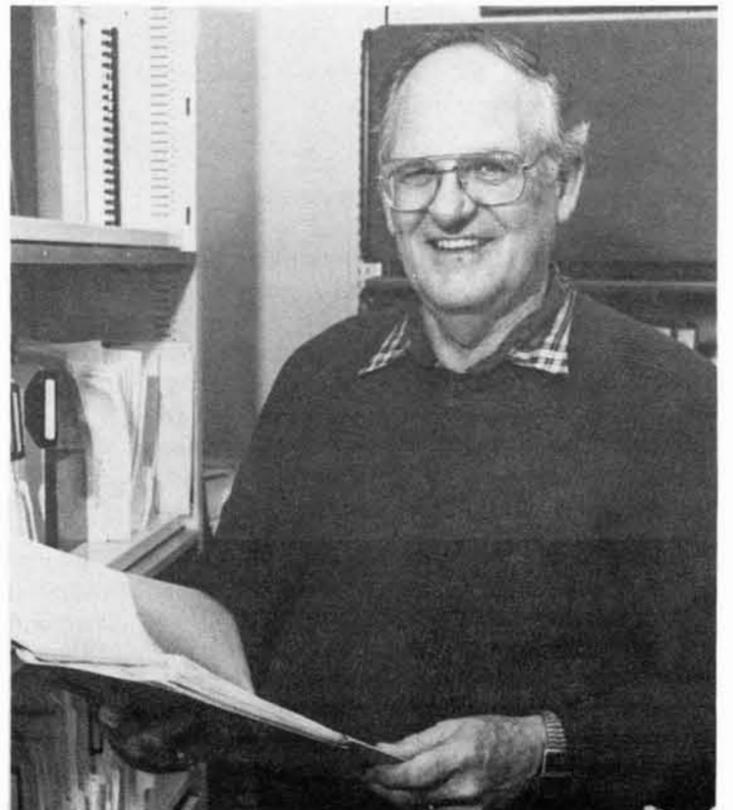
Roger Roberts
2571 30



Charles McClenahan
1243 15



Dwight Lambert
6449 25



Dean Davis
6400 35

UNCLASSIFIED ADVERTISEMENTS • UNCLASSIFIED ADVERTISEMENTS • UNCLASSIFIED ADVERTISEMENTS • UNCLASSIFIED ADVERTISEMENTS

Deadline: Friday noon before week of publication unless changed by holiday. Mail to Dept. 7162.

Ad Rules

1. Limit 20 words, including last name and home phone (the LAB NEWS will edit longer ads).
2. Include organization and full name with each ad submission.
3. Submit each ad in writing. No phone-ins.
4. Use 8 1/2" by 11-inch paper.
5. Use separate sheet for each ad category.
6. Type or print ads legibly; use only accepted abbreviations.
7. One ad per category per issue.
8. No more than two insertions of same "for sale" or "wanted" item.
9. No "for rent" ads except for employees on temporary assignment.
10. No commercial ads.
11. For active and retired Sandians and DOE employees.
12. Housing listed for sale is available for occupancy without regard to race, creed, color, or national origin.
13. "Work wanted" ads limited to student-aged children of employees.

MISCELLANEOUS

MACINTOSH PLUS, 2.5 MB (exp. to 4 MB), \$300; 40-MB hard drive, \$150; ImageWriter, \$300; all for \$700. Baldo-Pulaski, 345-1288.

COMPUTER, 286 XT clone, 5.25 diskette, 10-MB hard drive, mono-chrome monitor, 265-KB memory, DOS, Epson MX80 printer, \$500. Douglas, 281-9843.

REPAIR MANUAL, for '88 Toyota Corolla, \$25. Murphy, 881-1520.

TREADMILL, Cadence 2300, 5-mph, calorie/pulse monitor, auto incline, \$250; utility trailer w/cargo shell, 825-lb. capacity, \$150. Webb, 828-2271.

UNITED AIRLINES TICKET, one-way to Eugene, Oregon, Jan. 30, \$100; storm window, horizontal, aluminum, 34" x 70"; snow tires (LR-78-15). Walker, 821-5938.

MATTRESS & INNER SPRING, full-size, Rest Rite Sleep Air, like new, \$85. Lenz, 884-4835.

AIR PISTOL, Feinwerkbau Olympic, .177-cal., Beeman Model 22, 2 x 20 scope, shoot flies at 30 ft., perfect, \$500. Roth, 344-7060.

COUCH, \$100; recliner, \$30. Hubbert, 891-9423.

HAM RADIO EQUIPMENT: Drake L4B, \$650; MN2000, \$150; Icom IC720A & PS20, \$625. Greenway, 299-1104.

GARAGE DOOR REMOTE CONTROL, Genie Model AT85, frequency 390, \$10. Hesch, 298-4902.

COIN COLLECTION, small, some silver. Montoya, 883-9115.

TREADMILL, DP-2600, 3/4-hp motor, fitness computer display w/pulse monitor, like new, list price, \$299, sell for \$150. Hale, 298-1545.

CROSS-COUNTRY SKIS, no wax, 205cm, 3-pin bindings, \$60; boots & poles, \$15. Lorence, 275-3586.

MUZZLE LOADER, Antonio Zoli, .50-cal., w/accessories; Swarovski binoculars, 7x42; Weatherby 7mm, Remington, magnum w/scope. Jimenez, 296-9256.

SOFA BED, queen-size, like new, \$350; Tiffany swag lamp, amber & white, \$125. Harrington, 294-6368.

CEMETERY LOTS, Sandia Memory Garden, "Garden of Mercy," 2 spaces, 2 vaults, 1 bronze double marker, make offer. Haycraft, 299-3220.

VACUUM CLEANER, Eureka, 5.5 amp., w/attachments, 4 yrs. old, \$60; baby crib w/mattress, excellent condition, \$100. Meeks, 828-9825.

TYPEWRITER, Smith Corona, Model XD-4800, word processing, Spell Write dictionary, used once. Young, 296-1138.

CHAIR, large, w/matching ottoman, earhtone, excellent condition, \$200. Gendreau, 268-3436.

RAILROAD TIES, \$6.50/ea or all 50 for \$300, delivered. Gutierrez, 865-9542.

RECLINER, brown, good condition, \$75; couch, 7-ft., contemporary, brown/gold, excellent condition, \$150. Bisbee, 293-0356.

WOMAN'S WESTERN BOOTS, Dan Post, black, size 8, brand new, \$160. Abney, 266-6860.

RIMS, 4, "Prime," 5-Star, 4-lug w/low profile tires, excellent condition, \$750 OBO. Pendry, 884-1728.

WATERBED, king-size, liner, heater, sheets, no frame, \$35. Jogi, 275-0610.

HEADBOARD, queen-size, w/2 nightstands, \$90. Hurley, 296-7012.

DESK, antique oak, \$35; student desk, \$20; microwave cart, \$15; gas log set, \$75. Yourick, 822-8148.

MATTRESS SET, twin-size, Sterns & Foster, excellent condition, \$75; bed frame, adjustable king/queen, new, \$40. Kellogg, 299-3737.

DINETTE SET, 5-pc., glass & brass w/cushioned seats, \$35; hobbyist drafting table/stool, new, \$20, will deliver. Henfling, 869-4119.

EXERCISE CYCLE, Schwinn Air-Dyne, \$400. Lukens, 299-1271.

CRIB & MATTRESS, standard size, white, good condition, \$50; ski bib, black, boy's size 16-18, \$15. Mills, 823-4484.

NECKLACE & EARRINGS, blue topaz, \$150 OBO; Nintendo system w/5 games, \$50; bunk beds w/mattresses, \$50. Archibeque, 256-1356.

BEDROOM SET, 4-pc., Heywood-Wakefield, Kent, 881-1888.

DINING ROOM SET, table & chairs, glass, wood, & neutral upholstery, \$700; desk & chair, \$125; coffee table, marble & chrome, \$300. Scrivner, 857-0845.

SECRETARY DESK, antique walnut, circa 1890, glass front, enclosed bookcase over desk, \$975. Locher, 266-2021.

STAIR STEPPER, w/electronic module, a nice one, \$170 new, \$95. Vogel, 275-0774.

EXERCISE BIKE, DP Airciser, excellent condition, hardly used, odometer, timer, paid \$250, sell for \$175 OBO. Dunham, 828-1755.

EXERCISE BIKE, Schwinn DX, odometer & timer, good condition, \$100 OBO. Neiswander, 884-7142.

STAIR STEPPER EXERCISE MACHINE, Impex Step & Tone 600, dual action, almost new, cost \$200, sell for \$115. Barr, 822-0671.

GARAGE DOOR OPENER, Genie 1/4-hp w/2 remote controls, 6 yrs. old, all hardware, \$60. Baca, 271-2962.

VALVOLINE OIL, 1 case (12 1-qt. containers), low 30, \$6; geode halves. Graff, 268-5291.

SOLOFLEX WEIGHT MACHINE, w/butterfly & leg attachments, excellent condition, \$680. Biffle, 293-7043.

CITATION IRONS, Power Bilt, \$150; Seatek buoyancy compensator, \$40; both excellent condition. Green, 296-3889.

TREADMILL, Lifestyler, 4 yrs. old, excellent condition, \$300 OBO. Fox, 266-6606.

NINTENDO, 6 games, w/gun, joystick, & cleaner, \$100. Durkee, 255-4211.

PEACOCKS: 1 female, 4 mos. old, \$30; 1 male & 1 female, 8 mos. old, \$90/pair. Phelan, 869-6094.

TIRES, Michelin, one pair, all seasons, X24, P215/TOR 15 MS, good condition. Wagner, 823-9323.

SKI BOOTS, Nordica, N757, woman's size 8-1/2, excellent condition, \$100. Forrest, 275-3797.

PUPPIES, Cocker Spaniel/Golden Retriever cross, 1 female & 1 male, 9 wks. old, free. Ernest, 293-1757.

SOFA, \$150; two built-in electric ovens; range. Wymer, 294-0605.

ELECTRONIC ORGAN, Lowrey, w/Gene guards, excellent condition, \$750 OBO. Pinkerton, 260-8243.

DIAMOND DINNER RING, 2 ct. TW, 14-kt. gold, \$2,500. Laswell, 243-4275, 8 a.m. to 5 p.m.

INFANT CAR SEAT, Joyride, w/canopy, \$20; swing, battery operated, \$25; bouncer, \$10; Snuggli portable bed, \$20. Rosales, 294-0173.

COMPUTER, CompuAdd 286-12, color-EGA, coprocessor, 1 MB RAM, 20-MB HD, disk cache & compression software, dual floppies, trackball, Epson printer, \$500. Keltner, 298-7577.

ELECTRIC GUITAR, Peavey T-25, natural finish, dual/single pickups, hard shell case, excellent condition, \$165. Kureczko, 281-8206.

COMPUTER, Macintosh IIsi 5/40, 13-in. high-resolution Apple monitor, standard Apple keyboard, microphone, manuals, & boxes, like new, \$2,100 firm. Davis, 255-2084.

CHILD'S CAR SEAT, \$18; child's bicycle seat, \$5. Farrell, 292-1568.

SEWING MACHINE, Singer Featherweight, \$250; Kodak compact Graphlex, \$500; movie camera, Hollywood Camera Co., Kodascope 8, 16mm Peksoscope, make offer. Patton, 281-5209.

CRYPTS, 2, side-by-side, Sunset Memorial mausoleum. Gerwin, 881-0028.

ENCYCLOPAEDIA BRITANNICA, Heirloom edition, w/all yearbooks, \$400 OBO. Hubbard, 293-2819.

SEWING MACHINE, Viking, \$450; sewing cabinet, \$250; sleeper sofa, queen-size, w/Simmons Innerspring mattress, all in excellent condition. Ottesen, 292-7147.

WEIGHT MACHINE, DP Gympac 2500DL, 200 lbs. weights, bench, all accessories, \$100. Sturgis, 299-5470.

DINING ROOM SET, antique table & 6 matching chairs, Chippendale style, \$800. West, 296-1483.

LIVING ROOM SECTIONAL, large, contemporary, 6-pc., w/soft earhtone pattern, like new, \$500. Wischmann, 821-2966.

TRAVEL TRAILER, '87 Sprinter, 24-ft., sleeps 7, electronic ignition on all appliances, shower never used, \$7,500. Pritchard, 299-3543.

ENTERTAINMENT CENTER, oak, 60" W x 72" H x 16" D, \$230; ski boots, Salomon SX-80, size 345 (9-1/2), \$20; trash compactor, free. Danneels, 292-1548.

FIREPLACE INSERT, Homesteader, complete w/screen & blower, \$300; gas log set, 24-in., complete, \$200. Baca, 265-2881.

TYPEWRITER, Smith Corona, Model SE-200; daisy-wheel printer, Kaypro, Diablo emulation, needs repair; best offer on both items. Meirans, 271-2313.

BED, twin-size, box spring, metal frame, excellent condition, \$40. Shinn, 291-8825, leave message.

BREAD MACHINE, Welbilt, automatic, w/manuals, rarely used, \$90; Braun coffeemaker, \$25; Procter-Silx coffee/tea maker, \$20. Purvis, 867-5150.

CAMERA, Nikon 6006, Vivitar lenses, 28-70mm & 70-210mm, filters, battery, excellent condition, \$375. Pendall, 265-3008.

WALL UNIT, 75" H x 60" L x 16" D, pecan finish, good condition, \$175. Hopkins, 821-3641.

STEREO EQUIPMENT: Kenwood receiver, 80-watt, \$50; Panasonic tape deck, \$65; AWWI stereo/cassette boom box, \$75. Lucas, 268-6108.

CHINA CABINET/BUFFET, w/matching large serving cabinet, \$999 OBO; chandelier, 14kt. gold plated w/6 globes, \$100. Uhl, 298-6391.

PEKINESE PUPPIES, pure-bred, 10 wks. old, wonderful pets, \$100/ea. Fulmer, 265-9192.

CONSOLE HUMIDIFIER, Sears, \$30; youth bike helmet, L'il Bell, never used, \$12. Kawka, 299-1216.

MOVING SALE: baby & children's clothes & miscellaneous items, household items, more; Saturday, Jan. 23, 9 a.m.-4 p.m., 5917 Canyon Crest Pl. Baldwin, 822-1860.

VIDEO CAMERA, RCA, color, w/tripod & case, \$140; Millertime pool table light, \$70; miscellaneous toys. Jackson, 299-8883.

COLGAN BRA, for Porsche 928S, black, never used, new in box, \$50. Wallace, 256-1643.

TIRES, 4, w/chrome modular rims, 235-75-15, 5-5 1/2 bolt pattern, excellent condition, asking \$500 OBO. Clair, 298-3114.

CRIB, 200-coil mattress, excellent condition, \$75; rims for GMC older truck, 5-hole, 15" x 7", \$20/ea. or \$60 for all. Zirzow, 281-9896.

COUCH & CHAIR, pillow back, brown, excellent condition, \$200. Gallegos, 292-8186.

ALBUM COLLECTION, 220-plus titles, rock, jazz, etc., 1970-1990, some original masters, \$200, call for more information. Brooks, 275-0056.

FLARES, for '74 Chevy Blazer, brand new, equipped w/pre-mounting holes, asking \$150. Martinez, 271-7954.

TRANSPORTATION

MOUNTAIN BIKE, used, good condition. Howard, 839-9203.

'62 FORD THUNDERBIRD, hard top, great condition, runs well, nice interior, maroon, 80K original miles, \$5,500. Beer, 275-2557.

'81 BUICK CENTURY, AC, AT, PB, PS, low mileage, \$1,800. Greenway, 299-1104.

'78 El CAMINO, prized & pampered, Eagle Sts., American racing wheels, camper shell. Freshour, 256-9168 after 6 p.m.

MAN'S BICYCLE, Peugeot (US Express model), 10-spd., 26-in., hybrid road bike, good condition. Sturgis, 299-5470.

'88 TOYOTA SUPRA TURBO, fully loaded, low miles, like new, mint condition, must sell, \$11,600. Helgesen, 293-4430.

'91 MITSUBISHI ECLIPSE, 2-dr. hatchback, white, 21K miles, AT, AC, 4-cyl., FWD, 1-year factory warranty, emissions-certified, wholesale price \$8,250. Stude, 897-4352.

'68 DODGE MONACO STATION WAGON, 440 rebuilt engine, good condition, well maintained, runs well, \$1,750. Mozley, 299-4204 or 265-2625.

'67 PONTIAC BONNEVILLE, AC, PS, PB, rebuilt engine, \$900. Jones, 293-0497.

BICYCLE, Peugeot UO8, 10-spd., 26-in. frame, good condition, minimal use, \$100 OBO. Neiswander, 884-7142.

'81 HONDA ACCORD, 4-dr. sedan, 5-spd., AC, new paint & seat covers, runs great, \$2,500. Sargent, 865-3227.

'91 TOYOTA COROLLA, 4-dr., 5-spd., less than 10K miles, nice. Fox, 266-6606.

'85 TOYOTA PICKUP, 83K miles, 5-spd., great condition, camper, liner, chains, manual, \$3,850. Spires, 275-3655.

'87 DODGE RAM 150, LWB, 318 automatic, AC, PS, PB, stereo, 90K miles, good truck, \$5,400 book value, asking \$3,700. Jones, 247-3455.

'77 CHEVY C-10 TRUCK, heavy half, Silverado, V-8, Positraction, AT, AC, PS, PB, cruise, LWB, 82K miles, records, \$2,250. Shunny, 265-1620.

'86 FORD F250 SUPER CAB, XLT, 460, excellent condition, fully equipped for heavy fifth-wheel towing, must see to appreciate. Lindsay, 831-6553.

'88 FORD F-150 TRUCK, V-8, 5-spd., 70K miles, camper package, Michelin 6-ply tires, \$6,900. Smith, 265-4080.

'58 CADILLAC CONVERTIBLE, rust-free, in good original condition, black/white top, white side walls, \$20,000. Kelly, 881-5032.

'91 CHEVY ASTRO VAN, V-6, AT, PS, PB, AC, AM/FM, captain's chairs, \$700 below loan value. Norwood, 292-0072.

'51 HARLEY DAVIDSON MOTORCYCLE, Panhead, Suicide shifter, Spinger front end, \$4,500. Montoya, 892-1055.

'73 DODGE CHALLENGER, 383 mag., pistol grip, 391 posi., rallys, tachometer, PS, PB, AC, hood stripes, show car, \$7,000 OBO. Hole, 892-6178.

'84 DODGE DAYTONA, gold, 2-dr., 4-cyl., FWD, new tires & struts, tinted windows, stereo/cassette, sporty, 102K miles, one-owner, \$1,299. Gallegos, 899-9004.

MOUNTAIN BIKE, \$125. Davis, 294-1048.

'89 DAIHATSU CHARADE CLS, great car for school or work, under book value. Fitzpatrick, 275-3422.

'85 RV, on Toyota chassis, AT, cruise, dual air, sleeps 5, 80K miles, good condition, asking \$9,300. Cockerham, 892-6927.

'89 FORD BRONCO, full size, 4x4, AT, AC, PS, PB, fuel-injected 302, AM/FM stereo, excellent condition, book \$8,500, asking \$7,800 OBO. Mitchell, 275-1788.

'92 DODGE 250 CUMMINS DIESEL LE, 4-WD, club cab, AT, power everything, save \$4,000. Furaus, 293-9799.

'91 FIREBIRD, V-6, AT, AC, PS, PB, AM/FM cassette, power windows & locks, T-tops, metallic blue. Shortencarier, 291-1923.

REPO: '86 Lincoln Signature Series Town Car, 4-dr., 8-cyl., 93,788 miles; bids accepted through Feb. 2; we reserve the right to refuse all bids; subject to prior sale. Sandia Lab FCU, 293-0500, ext. 344.

'71 DODGE VAN, AC, low miles, runs well, fish-ready (sink, ice box, bed, carpet, boat rack, new tires), \$2,300 OBO. Romero, 873-1591.

'84 CHEVY S-10 PICKUP, 93K miles, good condition, \$2,500. Hurley, 296-7012.

REAL ESTATE

2-BDR. TOWNHOUSE, w/garage, 1,000 sq. ft., fenced back yard, laundry room, store room, Eubank/1-40, assume, no qualifying, good terms, \$64,500. Cooper, 888-4150.

BRICK DUPLEX, near Kirtland, well maintained, pitched roof, security, wrought-iron, fencing, patio, \$49,750. Haycraft, 299-3220.

MOBILE HOME, '91 Oakcreek, Four Hills mobile home park, w/carpport & storage sheds, \$34,000. Whinery, 271-1653.

3-BDR. HOME, Hoffman brick, double garage, large corner lot, well landscaped. Marchi, 291-9681.

2-BDR. HOME, 1 bath, 950 sq. ft., fireplace, Sandia High School district, excellent condition. Molina, 292-4117.

5-BDR. HOME, foothills, all brick, custom, 5,300+ sq. ft., .7 acre, views, tennis court, incredible buy, \$291,500. Blankenship, 294-4332.

ADOBE HOME, 1,224 sq. ft., Belen, nicely remodeled, rental potential, \$38,000, buyer financing or \$41,000 REC. Roberts, 1-864-3529.

WANTED

TRAILER, small & light, to haul motorcycle, does not have to be set up for a motorcycle. York, 828-9505.

BUNNY HUTCH, for bunny found in yard Christmas Eve, reasonably priced. Langlois, 293-3097.

SUMMER EMPLOYEE, to housesit & yardsit at townhouse near Ladera golf course, during June-August, you pay utilities only. Whipple, 281-9285.

ELECTRIC BASS GUITAR, with or without amp, must be in good condition, for beginner use. Kureczko, 281-8206.

BROTHER BULKY KNITTING MACHINE, ribber, linkers. Ayers, 888-8922.

WASHER, DRYER, & GAS STOVE, almond color, all in good condition & clean. Gamboa, 764-8212.

RUNNER'S BABY STROLLER, baby backpack, & infant carryseat. Kallio, 299-8837.

ROOMMATE, male or female, 3-bdr. house, 2-car garage, large yard, fireplace, \$300/mo. + 1/2 utilities. Ewen, 836-3563.

COACH/PLAYER, for men's softball team, Sandia "C" league. Harrington, 292-1458, leave message.

DIVERSIFY, book by Gerald Perritt, to buy or borrow. Scheibner, 345-9351.

BABYSITTER, occasional, for my grandson. Jones, 881-1918.

STEEL RIMS, 16-in., 8-hole, for 3/4-ton Ford truck, need 5 if possible. Zirzow, 281-9896.

TRAVEL PARTNER, to share cost weekend flights to/from Dallas, for next 9 months, Southwest Airlines, \$100 roundtrip, \$50 one-way. Furman, 891-1018.

SHARE-A-RIDE

CORRALES/RIO RANCHO VANPOOL has space available for new riders. Kuszmaul, 892-4466, or Boatman, 892-3570.

LOST AND FOUND

FOUND: Money clip in east parking lot before the holidays. Payne, 5-9683.

LOST: Pen knife, 2-3 in. wide, w/en-graving of trees, a hunter, & deer, lost in Bldg. 802 (4th floor), Bldg. 836, or Bldg. 892, one week before holidays. Griffis, 4-2444.



Coronado Club Activities

Trio Grande Treat 2-Nite

TRIO GRANDE takes the Club stage tonight, Jan. 22, with their fine quartet sounds. (Don't try to figure how a trio is a quartet — just enjoy their tunes.) They'll play from 7 to 11 p.m. for your listening and dancing pleasure. For your dining pleasure, you can visit the all-you-can eat buffet (\$6.95), or order filet mignon (\$11.95) or golden fried shrimp (\$10.95). Call 265-6791 for reservations.

FAMILY MOVIE NEXT WEEK — Next Friday, Jan. 29, an evening of movies, food, and live entertainment starts at 5 p.m. That's when the buffet line opens (with special prices for the kids) and movies and cartoons magically appear on the screen. Special guests are Huggs and Sammy and their performing dogs Bandit, Scruffy Ruffas, and Tara John. Each child will receive a coloring book and a balloon. Big fun for little 'uns!

SUPER SUPER BOWL — Watch the Super Bowl on a big-screen TV, play some bingo, and enjoy a bowl of green chile stew and a free buffet. You'll find great drink specials, including half price for non-alcoholic drinks. The Club opens at 1 p.m. that day (what? you didn't know? it's Jan. 31), and bingo begins at 2 p.m. Any member buying a bingo packet gets a free packet. If you're not having too much fun to watch, rumor has it that the football game starts at 4 p.m.

Cover charge for all this enjoyment is \$1 for members, \$2 for non-members.

BINGO'S BACK in a big way every Thursday evening. Card sales and the buffet begin at 5:30 p.m., and early bird games start at 6:45 p.m. Show your membership card and get \$1 off a bingo package and 10 percent off the buffet — and if it happens to be your birthday, you get a free bingo package, food, and drink. Got bingo-ers in your office? Sandia and DOE employees can arrange a special table for five or more co-workers and have a bingo party with pizza, soft drinks, and popcorn. Hopping horned toads, Batman — it just keeps getting better!



Take Note

A special joint meeting of the 29th Annual Symposium of the American Vacuum Society, New Mexico Chapter, and the 18th DOE Surface Studies Conference will be held April 27-30 at the Sweeney Convention Center in Santa Fe. Technical sessions include "Surface Modification for Enhanced Wear and Corrosion Resistance," "Novel Thin Film Growth and Processing Methods," "Nanoscale Science and Technology," "Surface and Interfacial Chemistry and Dynamics," "Surface Electronic and Structural Properties," "Electronic Materials and Sensors," and "Issues in Applied Surface Science." Invited and contributed papers will be presented in all sessions; student papers are welcome. Submit abstracts to 1993 AVS/NM symposium chair Diane Peebles (1812), 5-8087. Deadline is March 12. A five-day program of short courses will be held in conjunction with the meeting, including a five-day course in basic vacuum technology and one- and two-day courses in vacuum techniques, surface and interface analysis, and thin film deposition processes. For short-course information, contact Jay Fries on 1-505-438-8081.

**Earnings Factors
October 1992**

Long-Term Savings Plan for Management Employees (LTSPME)	Earnings Factors
AT&T Shares	.9999
Government Obligations	.9937
Equity Portfolio	1.0051
Guaranteed Interest Fund	1.0065
South Africa Restricted Fund	1.0132
Long-Term Savings and Security Plan (LTSSP)	
AT&T Shares	.9999
Guaranteed Interest Fund	1.0066
South Africa Restricted Fund	1.0132
Equity Portfolio	1.0051
Employer Stock Fund	.9998

Sandia Calendar

The LAB NEWS gathers Sandia Calendar items from various sources, often several weeks in advance of publication. Events could be postponed or even canceled after the LAB NEWS deadline, so readers should confirm times and dates of interest whenever possible.

Tuesday, Jan. 26 — KAFB Computer Expo, hosted by DOE's Information Management Division, hands-on demonstrations and product displays (10 a.m.-2 p.m.); technical briefings: "Presentation Graphics for the '90s" by WordPerfect (9-10 a.m.), "On-Line Multi-Media: Text and Image Management" by Verity (11:30 a.m.-12:15 p.m.), and "Networking for the '90s" by Novell, Inc. (1:30-2:30 p.m.); Coronado Club, free, open to all Sandia, DOE, Base, contractor, and area government and DoD personnel. Contact: David Katz (DOE), 5-5342.

Wednesday, Jan. 27 — "What Can the Child Care Referral Office Do for You?" Sandia on-site referral specialist Carolyn Nee of Choices for Families Child Care Resource and Referral answers questions about child care in Albuquerque; 4-5 p.m., Coronado Club, Zia Room. Contact: Carolyn Nee on 4-1492.

Friday, Jan. 29 — "Software Management at Sandia: A Proposed SLI [Sandia Laboratories Instruction]," a presentation regarding policy to ensure a consistent approach to the management of all software being acquired, developed, supported, and used at Sandia; 1-2 p.m., Tech Transfer Center (Bldg. 825); managers and software developers are especially encouraged to attend, but open to all interested employees. Contact: Mike Blackledge (326) on 5-8307.

Thursday, Feb. 4 — Education Colloquium, "Science, Magic, or Deception?" William Spooner, science educator and magician, discusses historical relationships between magic and science and demonstrates magical effects; 10 a.m., Tech Transfer Center (Bldg. 825). Contact: Leo Gomez (35) on 5-9764.

Thursday, Feb. 18 — Division 7000 management "Road Show" by Glen Cheney, Vice President of Internal Programs Div. 7000; 9-10 a.m. and 3-4 p.m. (afternoon session will be video-linked to Sandia/California Bldg. 904 auditorium); open to all employees.

Monday & Tuesday, Feb. 22 & 23 — Laboratory Directed Research and Development (LDRD) Dept. 1011 presents staff information sessions about the LDRD process; Sandia/California — 8:30 a.m. Monday, Bldg. 904 auditorium; Sandia/New Mexico — 9 a.m. Tuesday, Tech Transfer Center (Bldg. 825); those considering submitting proposals are strongly encouraged to attend. Contact: Chuck Meyers (1011) on 4-3459 or Laura Lopez (1001) on 4-9064.

Mail or fax potential items to Sandia Calendar, Dept. 7162, Fax 844-0645.



JOB TALK — At the Energy and Environment (E/E) Sector Job Fair on Jan. 13, Tom Brown (left, 6413) talks with Lawrence McCartney (right, 2722) about the kinds of work going on or planned in Nuclear Energy Technology Center 6400. A few of the many other Sandians who were there can be seen in the background. Fair organizers estimate that 1,200 to 1,500 people attended the workshops and visited display/discussion booths. The purpose of the Job Fair was to let employees and managers discuss E/E Sector matrixing and job opportunities.